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U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 168.

B. T. GALLOWAY, *Chief of Bureau.*

# SEEDS AND PLANTS IMPORTED

## DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1909:

INVENTORY No. 19; Nos. 25192 to 25717.

Issued December 29, 1909.

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1909.

## BUREAU OF PLANT INDUSTRY.

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FOREIGN SEED AND PLANT INTRODUCTION.

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# LETTER OF TRANSMITTAL.

U. S. Department of Agriculture,
Bureau of Plant Industry,
Office of the Chief,
*Washington, D. C., October 1, 1909.*

Sir: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 168 of the series of this Bureau the accompanying manuscript, entitled "Seeds and Plants Imported during the Period from April 1 to June 30, 1909: Inventory No. 19; Nos. 25192 to 25717."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. Galloway,
*Chief of Bureau.*

Hon. James Wilson,
*Secretary of Agriculture.*

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# SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1909: INVENTORY NO. 19; NOS. 25192 TO 25717.

## INTRODUCTORY STATEMENT.

The material listed in this nineteenth inventory of seeds and plants imported was secured almost entirely through friends and correspondents abroad and by the efforts of coworkers in this country. No agricultural explorers were in the field during the time covered, although three varieties of alfalfa and one of clover secured by Professor Hansen in central Asia are included here, having arrived too late for the last inventory, and as this inventory goes to press Mr. Frank N. Meyer is on his way to Chinese Turkestan, where he goes in search of hardy fruits, forage crops, and grains.

The following are some of the more important items in this inventory:

A collection of named German and other European varieties of alfalfa (Nos. 25193, 25194, 25257, and 25264 and following numbers) has been secured for the work in Plant Life History Investigations.

Following the example of Louisiana and Hawaii, it is hoped that some valuable work can be done for the newly opened region in southern Texas with a fine collection of sugar-cane hybrids recently received at the South Texas Garden from the Harvard Botanic Station in Cuba (Nos. 25225 to 25242).

A remarkable eucalypt hybrid (No. 25246) which comes true from seed, an acquisition from Algeria, should be of value to growers of these trees in California.

A clover and three varieties of alfalfa, previously mentioned (No. 25276 and following numbers), were secured through Prof. N. E. Hansen on his central Asian journey, but arrived too late to be grouped with the forage crops described in the last inventory.

The specialists in cereals of the Department of Agriculture and the state experiment stations making oat trials will undoubtedly find some good material in the collections from Spain, Italy, and Roumania (No. 25317 and following numbers, No. 25351 and following numbers, and No. 25580 and following numbers).

Africa, the reputed home of the sorghum, has again contributed its quota for experiments in the Southwest in seventeen varieties from Togo (No. 25328 and following numbers).

A wild red raspberry (No. 25466) from the Philippines is considered a possibility for breeding a desirable form for the South or for our tropical possessions.

Mr. Husbands, of Limávida, Chile, has again sent the Department a collection of forest and ornamental trees and shrubs, together with forage crops and muskmelons adapted to the Pacific slope (No. 25470 and following numbers; No. 25611 and following numbers).

Another collection of muskmelons (No. 25538 and following numbers), consisting of extra-choice winter varieties adapted to California conditions, has been received from the American vice-consul at Valencia, Spain.

A curious rubber plant (No. 25547), only recently described, has been secured from Angola, West Africa. It is a slow-growing desert type in which the rubber is stored up in turnip-shaped underground roots. It will be used for trials in methods of rapid propagation and selection.

Nine varieties of rice from Trinidad (No. 25596 and following numbers) may prove valuable for the work of the Hawaii Agricultural Experiment Station.

Manchuria has contributed ten more varieties of soy beans (No. 25649 and following numbers) secured through the American consul at Newchwang.

Collections of cereals, legumes, and sorghums from Abyssinia (No. 25666 and following numbers) and tropical legumes from Bombay, India (No. 25704 and following numbers), have added materially to the list of plants available for trial in the South.

This nineteenth inventory contains 526 separate introductions, covering the quarter beginning April 1 and ending June 30, 1909. The material included was determined by Messrs. W. F. Wight and H. C. Skeels, while the manuscript was prepared by Miss Mary A. Austin.

David Fairchild,
*Agricultural Explorer in Charge.*

Office of Foreign Seed and Plant Introduction,
*Washington, D. C., September 7, 1909.*

# INVENTORY.

**25192.** MEDICAGO SATIVA L. **Alfalfa.**

From Tulare, Cal. Grown by Mr. J. T. Bearss, of the agricultural substation. Presented by Director E. J. Wickson, through Mr. J. M. Westgate. Received April 1, 1909.

"This was grown from S. P. I. No. 1151, which was secured in Kopal, Siberia. It is considered to be the best variety of Turkestan alfalfa tested by the California experiment station. It has variegated flowers, as do commercial sand lucern, *Grimm* alfalfa, and several other hardy valuable strains." (*Westgate.*)

**25193.** MEDICAGO SATIVA L. **Alfalfa.**

From Bargen, Baden, Germany. Secured from Mr. Adam Joos, Bargen, near Sinsheim, Baden, through Mr. Charles J. Brand. Received April 1, 1909.

*Alt-Deutsche Fränkische luzerne.* "This seed was grown in the valley of the Elsenz, a tributary of the Neckar. It is the practice in this section to leave either the first or second growth for the seed. When the first is left, harvesting is done in August. Mr. Joos states that old stands serve better for seed-producing purposes than young. Concerning the old German variety he says: 'This variety of clover is at home with us; it has already been cultivated for centuries.'" (*Brand.*)

**25194.** MEDICAGO SATIVA L. **Alfalfa.**

From Bavaria, Germany. Secured from Gutsbesitzer Heil, Tückelhausen, near Würzburg, Bavaria, through Mr. Charles J. Brand. Received April 1, 1909.

*Alt-Deutsche Fränkische luzerne.* "(P. L. H. No. 3437.) In the section from which this seed was procured, lucern left for seed is cut with the scythe, bound by hand into small bundles, and shocked. The second cutting is always used for seed production." (*Brand.*)

**25195.** ACTINIDIA ARGUTA (S. & Z.) Planch.

From Taracol, Unsan, Korea. Presented by Mr. J. D. Hubbard, metallurgist for the Oriental Consolidated Mining Company. Received April 1, 1909.

"Seeds of the Korean 'tara,' or wild fig. In its wild state here the tara plant is a wonderfully tough and wiry vine that will climb up trees sometimes to a height of 30 feet. The fruit has a green skin and is the size of a date when ripe. The flavor is different from any fruit I ever tasted, and I come from California, the 'land of fruit.' I do not think the vines bear the first year, but after that profusely." (*Hubbard.*)

**25196.** CITRUS NOBILIS × AURANTIUM. **Orange.**

From Algiers, Algeria. Presented by Dr. L. Trabut, botanist to the Government of Algeria, through Mr. Walter T. Swingle. Received April 5, 1909.

*Clémentine.* Budsticks procured for grafting purposes.

"This new variety of tangerine orange is said to be very mild and to be a very bright red color. It was found in North Africa by Doctor Trabut and is considered by him to be a very promising novelty." (*Swingle.*)

**25197.** STIZOLOBIUM sp.

From Homestead, Fla. Presented by Mr. Thomas Brewer, through Mr. P. J. Wester, in charge, Subtropical Garden, Miami, Fla. Received April 2, 1909.

"I have originated a white velvet bean which has taken me four years to perfect from one lone white bean, and I think there is a great future for it, as this variety is good to eat cooked like lima beans, and four times as prolific. The beans seem to be more domesticated and a better strain than the old dog tick velvet beans, and I think will take their place entirely when introduced." (*Brewer.*) Similar to S. P. I. No. 24766.

**25198 to 25203.** MANIHOT spp. **Cassava.**

From Brazil. Presented by Mr. William Hope, Washington, D. C., through Mr. W. W. Tracy, sr. Received March 24, 1909. Numbered April 5, 1909.

**25198.** *Mecadena.*
**25199.** *Miguel Preto.*
**25200.** *Picuhy.*
**25201.** *Puereca.*
**25202.** *Taresa.*
**25203.** *Bahiana.*

**25204 to 25219.**

From Bremen, Germany. Presented by Dr. George Bitter, director, Botanical Garden. Received March 26, 1909.

The following seeds:

**25204.** CHLORIS SUBMUTICA H. B. K.

*Distribution.*—A native grass of Mexico, extending north as far as San Luis Potosi.

**25205.** ERODIUM SEMENOVII Reg. & Herd.

*Distribution.*—An annual plant, found in the valley of the Volga River and on the borders of the Caspian Sea in southeastern Russia.

**25206 and 25207.** FESTUCA ELATIOR L.

**25208 and 25209.** FESTUCA ELATIOR ARUNDINACEA (Schreb) Celak.

**25210 and 25211.** FESTUCA SPECTABILIS Jan.

*Distribution.*—A native of the mountainous regions of central Europe, extending from the Tyrol into Croatia and Dalmatia.

**25212.** GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

Brown.

**25213.** MELILOTUS MESSANENSIS (L.) All.

*Distribution.*—An annual plant, found in the countries bordering on the Mediterranean Sea.

**25214.** MELILOTUS SUAVEOLENS Ledeb. (?)

**25215.** MELILOTUS WOLGICA Poir.

*Distribution.*—A native of the southern part of Russia.

**25216.** MELILOTUS sp.

**25217.** PHALARIS MINOR Retz.

*Distribution.*—A native of the countries bordering on the Mediterranean Sea, and cultivated or introduced in central Europe.

**25218.** PHASEOLUS VULGARIS L.

**25219.** PHLEUM PANICULATUM Huds.

*Distribution.*—An annual grass, native of the countries of southern Europe, and extending east to Persia and Afghanistan.

**25221.** MEDICAGO SATIVA L. **Alfalfa.**

From Rocky Ford, Colo. Grown by Mr. P. K. Blinn in 1907. Received through Mr. J. M. Westgate, fall of 1908.

*Guaranda.* "Grown from No. 14972. Seventeen ounces of seed was secured from 50 individual plants, 6 months old, grown in cultivated rows 20 inches apart with the plants 20 inches apart in the rows." (*Westgate.*)

**25222 and 25223.** MEDICAGO SATIVA L. **Alfalfa.**

From Chillicothe, Tex. Grown by Mr. A. B. Conner, season of 1908. Received through Mr. J. M. Westgate, fall of 1908.

**25222.** "Grown from No. 12549. This alfalfa while not quite so hardy as ordinary western-grown alfalfa produces excellent yields of hay and seed in places where it does not winterkill." (*Westgate.*)

**25223.** *Guaranda.* "Grown from No. 14972. The heaviest seeding strain of any under test in the alfalfa nursery at Chillicothe." (*Westgate.*)

**25224.** HIPPEASTRUM VITTATUM (L'Her.) Herbert.

From Washington, D. C. Transferred to the Office of Foreign Seed and Plant Introduction by Mr. E. M. Byrnes, superintendent of Gardens and Grounds, United States Department of Agriculture, April 1, 1909.

"Two-year-old hybrids, the result of crosses made by Mr. Byrnes in the spring of 1907 between a few unnamed varieties of different shades of color and markings. The bulbs are regarded by Mr. Byrnes as exceptionally large sized for their age and those which have bloomed so far as a decided improvement over the parents." (*W. Fischer.*)

**25225 to 25242.** SACCHARUM OFFICINARUM L. **Sugar cane.**

From Central Soledad, Cienfuegos, Cuba. Presented by Mr. Robert M. Grey, Harvard Botanical Experiment Station. Received at the South Texas Garden, Brownsville, Tex., February 18, 1909. Numbered April 7, 1909.

Descriptive notes on the following by Mr. E. C. Green:

**25225.** *Barbados* No. 109 ♀ × *Ribbon* ♂.

(Harvard No. 1.) (S. T. G. No. 2005.) Dark cream to brown; average length of joints 3 inches; average length of canes 4 feet 3 inches, diameter 1 inch.

**25226.** *Barbados* No. 109 ♀ × *Ribbon* ♂.

(Harvard No. 5.) (S. T. G. No. 2006.) Dark cream to brown; average length of joints 3½ inches; average length of canes 3 feet 6 inches, diameter 1¼ inches.

**25227.** *Barbados* No. 109 ♀ × *Ribbon* ♂.

(Harvard No. 12.) (S. T. G. No. 2007.) Dark cream to brown; average length of joints 3½ inches; average length of canes 4 feet, diameter 1¼ inches.

**25228.** *Demarara* No. 95 ♀ × *Crystallina.*

(Harvard No. 15.) (S. T. G. No. 2008.) Yellow to dark green; average length of joints 2¾ inches; length of canes 4 feet, diameter 1 inch.

**25229.** *Demarara* No. 95 ♀ × *Crystallina.*

(Harvard No. 16.) (S. T. G. No. 2009.) Dark red; very stout; average length of joints 4 inches; average length of canes 4 feet 6 inches, diameter 1¼ inches.

**25225 to 25242**—Continued.

**25230.** *Crystallina* × *Crystallina.*

(Harvard No. 17.) (S. T. G. No. 2010.) Dark red; very stout; prominent nodes; average length of joints 3½ inches; average length of canes 2 feet 6 inches, diameter 1¼ inches.

**25231.** *Harvard* No. 208 × *Ribbon.*

(Harvard No. 22.) (S. T. G. No. 2011.) Dark red; stout; joints 3½ inches; canes average 3½ feet in length, diameter 1¼ inches.

**25232.** *Java* No. 51 × *Java* No. 51.

(Harvard No. 36.) (S. T. G. No. 2012.) Yellow to dark brown tinted with green; joints 3¾ inches long; average length of canes 5 feet 6 inches, diameter 1 inch.

**25233.** *Java* No. 51 × *Java* No. 51.

(Harvard No. 45.) (S. T. G. No. 2021.) Red with yellow; joints 3½ inches long; prominent nodes; canes 4 feet long, diameter 1 inch.

**25234.** *Barbados* No. 109 ♀ × *Ribbon* ♂.

(Harvard No. 48.) (S. T. G. No. 2022.) Yellow; very stout; joints 3½ inches long; canes 2 feet long, diameter 1½ inches.

**25235.** *Caledonia Queen* × *Crystallina.*

(Harvard No. 73.) (S. T. G. No. 2015.) Dark red; exceptionally stout; joints 3½ inches long; length of canes 4 feet 3 inches, diameter 1½ inches.

**25236.** *Barbados* No. 109 × *Crystallina.*

(Harvard No. 75.) (S. T. G. No. 2016.) Light green with yellow tints; joints 5½ inches long; canes 4 feet long, stocky, diameter ⅜ inch.

**25237.** *Barbados* No. 109 × *Crystallina.*

(Harvard No. 76.) (S. T. G. No. 2017.) Light green with yellow tints; joints 2½ inches long; canes 2 feet long, stocky, diameter 1⅜ inches.

**25238.** *Barbados* No. 109 × *Crystallina.*

(Harvard No. 77.) (S. T. G. No. 2018.) Light green with yellow tints; joints 4 inches long; canes 2½ feet long, diameter 1 inch.

**25239.** *Crystallina* × *Crystallina.*

(Harvard No. 198.) (S. T. G. No. 2019.) Dark red; joints 6 inches long; canes 5 feet long, diameter 1 inch.

**25240.** *Crystallina* × *Crystallina.*

(Harvard No. 208.) (S. T. G. No. 2020.) Yellow with green stripes; joints 5 inches long; canes average 5 feet 3 inches.

**25241.** *Java* No. 51 × *Java* No. 51.

(Harvard No. 37.) (S. T. G. No. 2013.) Dark red tinged with yellow; joints 6 inches long and very stout; length of canes 4 feet, diameter 1½ inches.

**25242.** *Barbados* No. 109 × *Crystallina.*

(Harvard No. 39.) (S. T. G. No. 2014.) Dark red; joints 5 inches long, stout; canes 4 feet long, diameter 1¼ inches.

**25243.** Triticum aestivum L. **Wheat.**

From Seoul, Korea. Presented by Mr. Thomas Sammons, American consul-general. Received April 7, 1909.

"The Korean variety of wheat, although very poor, grows well." (*Sammons.*)

**25244.** MEDICAGO SATIVA L. **Alfalfa.**

From Alma, Nebr. Grown in the summer of 1908 by Mr. Conrad Boehler. Received through Mr. J. M. Westgate, April 7, 1909.

*Grimm.* "A field of ordinary alfalfa was in bloom alongside of the field from which this seed was obtained, and some cross-pollination may have taken place." (*Westgate.*)

**25245.** ANACARDIUM OCCIDENTALE L. **Cashew.**

From Ancon, Canal Zone, Panama. Presented by Mr. H. F. Schultz. Received April 8, 1909.

A yellow-fruited variety. See No. 5205 for description.

*Distribution.*—A small tree, native of Tropical America, extending from Brazil north to Mexico and the West Indies. Cultivated and naturalized in India and other tropical countries.

**25246.** EUCALYPTUS TRABUTI Vilmorin.

From Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger, Algeria. Received April 7, 1909.

"A hybrid of *E. botryoides* × *rostrata*. Tree very vigorous, wood very good, growth rapid, stem straight and high. Comes true to seed." (*Trabut.*)

**25247 to 25250.** IPOMOEA spp.

From Miami, Fla. Procured from Mr. P. J. Wester, in charge, Subtropical Garden. Received April 8, 1909.

Seed of each of the following. Procured for experiments being made by Prof. H. J. Webber, Cornell University, Ithaca, N. Y.

**25247.** IPOMOEA SINUATA Ortega.

*Distribution.*—A native of the sandy shores from Georgia to Texas, and extending south through Central America into Brazil; also in the West Indies.

**25248.** IPOMOEA JALAPA (L.) Pursh.

*Distribution.*—A native of America, being found on the sandy shores along the coast from South Carolina to Florida and in Mexico and the West Indies.

**25249.** IPOMOEA SETOSA Ker.

*Distribution.*—A native of Brazil, and also found in Jamaica, probably introduced.

**25250.** IPOMOEA sp.

"Found growing on wet land in the neighborhood." (*Wester.*)

**25252.** ZEA MAYS L. **Corn.**

From a highland valley near Cuzco, Peru (11,500 feet). Presented by Mrs. Harriet Chalmers Adams, Washington, D. C. February, 1909.

"Red corn of the Quichuas." (*Adams.*)

**25253.** PELARGONIUM ODORATISSIMUM (L.) Ait. **Rose geranium.**

From Valencia, Spain. Presented by Mr. J. L. Byrne, American vice and deputy consul, at the request of Mr. R. M. Bartleman, American consul, Madrid, Spain. Received April, 1909.

"There is only one variety of the rose geranium cultivated in this region for its perfume. Judging from inquiries occasionally received at this consulate from Ameri-

**25253**—Continued.

can horticulturists and perfumers, it would appear that an impression prevails in the United States that the rose geranium employed in the famous essence manufactory near this city is a special variety peculiar to the district. Such, however, is not the case, but the plants raised in the vicinity of Valencia have been distinguished from time immemorial by the intensity of their fragrance and the quantity of essential oil they yield, qualities which undoubtedly depend to some extent on local climatic and soil conditions, as the same geranium transplanted to other European countries, and even to other regions of Spain itself, loses considerably in this respect. The plants used in the purfume distillery are grown close to the sea on soil so extremely light and sandy that in some places it looks like a continuation of the seashore." (*Byrne.*)

**25254.** STIZOLOBIUM sp.

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received April, 1909.

"This is widely cultivated in Hokkaido. *The Useful Plants of Japan* has to say: '*Mucuna capitata* Wight et Arn., Jap. *Osharaku-mame*, *Hassho-mame;* an annual leguminous climber cultivated in common dry land. The young soft grains are eaten boiled and have a taste of *Vicia faba* L., but this bean contains a poisonous ingredient in a slight quantity; so it is advisable to eat moderately.'" (*Yokohama Nursery Company.*)

*Note.*—The above seed was sent in as *Mucuna capitata;* hence the description.

**25255.** PHASEOLUS ANGULARIS (Willd.) W. F. Wight.

Grown at Arlington Farm, Virginia, season of 1908. Received in the fall of 1908.

"Grown from Agros. No. 0516. This seed was received from the Tokyo Botanical Garden in 1907. The seed is a pale-straw color or nearly white, much lighter than any other variety yet obtained." (*C. V. Piper.*)

**25256.** DOLICHOS LABLAB L. **Bonavist bean.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received April 10, 1909.

Stringless. Mottled reddish brown.

**25257.** MEDICAGO SATIVA L. **Alfalfa.**

From Bargen, Baden, Germany. Secured from Mr. Adam Joos, Bargen, near Sinsheim, Baden, through Mr. Charles J. Brand. Received April 12, 1909.

*Pfalzer luzerne.* "This seed was grown in the Bavarian Rhine Palatinate. (P. L. H. No. 3438.)" (*Brand.*)

**25258.** AVENA SATIVA L. **Oat.**

From Sebenico, Dalmatia, Austria. Presented by Mr. Carlo Ruggeri. Received April 7, 1909.

**25259 and 25260.**

From Palestine. Presented by Mr. E. F. Beaumont, Jerusalem, Palestine. Received April 10, 1909.

**25259.** AVENA SATIVA L. **Oat.**

From Plain of Sharon, near Jaffa.

**25260.** HORDEUM sp. **Barley.**

From mountain country around Jerusalem.

**25261 and 25262.** STIZOLOBIUM spp.

From Saigon, Cochin China. Presented by the director of the Botanical Garden, through Mr. Jacob E. Conner, American consul. Received April 12, 1909.

**25261.** **Florida velvet bean.**

**25262.**

Black seeded.

**25263.** STIZOLOBIUM sp.

From Calcutta, India. Presented by Mr. William H. Michael, consul-general, who procured them from the Reporter of Economic Products to the Government of India. Received April 13, 1909.

"These were collected from wild plants in the neighborhood of Calcutta, but the Mucuna (Stizolobium) can not be said to be cultivated here." (*Michael.*)

**25264 to 25266.**

From province of Saxony, Germany. Secured from Mr. Ludwig Pfoh, Ober-Inspector des Ritterguts, Zöschen, near Merseburg, Germany, through Mr. Charles J. Brand. Received April 12, 1909.

**25264.** MEDICAGO SATIVA L. **Alfalfa.**

*Alt-Deutsche Fränkische luzerne.*

**25265.** MEDICAGO SATIVA VARIA (Mart) Urb. **Sand lucern.**

**25266.** TRIFOLIUM PRATENSE L. **Red clover.**

This sample of German red clover was grown from seed originally produced in Württemberg.

**25267 and 25268.** MEDICAGO spp.

From Berlin, Germany. Secured from Metz & Co., Steglitz, near Berlin, Germany, through Mr. Charles J. Brand. Received April 13, 1909.

**25267.** MEDICAGO SATIVA L. **Alfalfa.**

Grown in Germany. (P. L. H. No. 3454.)

**25268.** MEDICAGO SATIVA VARIA (Mart) Urb. **Sand lucern.**

Bohemian.

**25269 and 25270.** MEDICAGO SATIVA L. **Alfalfa.**

From Bucharest, Roumania. Secured from the Ministry of Agriculture, Industry, Commerce, & Domains of Roumania, through Mr. E. W. Jenkins, Dover, Del. Received April 12, 1909.

"Both of these samples of seed were grown on the model farms conducted by the experiment station for the selection and breeding of cereals of the Roumanian Government." (*C. J. Brand.*)

**25269.** Was grown on the model farm "Studina," at Frasinet.

**25270.** Was grown on the model farm "Laza," which is located at Vasluiu.

**25274.** LITCHI CHINENSIS Sonner. **Leitchee.**

From Fuchau, China. Received through Mr. Samuel L. Gracey, American consul, at the Plant Introduction Garden, Chico, Cal., March 30, 1909.

For previous introductions, see No. 23202, etc.

*Distribution.*—Native and cultivated in the southeastern part of China; also cultivated in India. A few plants of the species are reported as growing in the West Indies.

**25276.** TRIFOLIUM SUAVEOLENS Willd.

From Tashkent, Turkestan. Procured by Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., in 1908, while traveling as an agricultural explorer for the Department of Agriculture. Received April 12, 1909.

*Distribution.*—See No. 24548.

**25277 to 25279.** MEDICAGO SATIVA L. **Alfalfa.**

From Turkestan. Procured from Mr. H. W. Durrschmidt, Tashkent, Turkestan, by Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., in 1908, while traveling as an agricultural explorer for the Department of Agriculture. Received February 23, 1909.

**25277.** *Aulieata.*

**25278.** *Khiva.* Polished by machine.

**25279.** *Vernoe.*

*Note.*—A previous shipment of alfalfa (No. 23203), received under the name *Vernoe*, or *Tschilik*, is presumably the same variety and from the same location as the above.

"The *Aulieata* is from Aulieata, Semirechensk, north of Tashkent. The *Vernoe* is from Vernoe, Semirechensk, 600 versts northeast of Tashkent." (*Hansen.*)

**52280.** PISUM ARVENSE L. **Field pea.**

From Nephi, Utah. Presented by Mr. F. D. Farrell, assistant agronomist, Agricultural Experiment Station, Logan, Utah. Received April 19, 1909.

"These were grown in 1908, from seed obtained from Colorado. Variety not known. Best yielding variety in 1908." (*Farrell.*)

**25281.** CAESALPINIA CORIARIA (Jacq.) Willd. **Divi-divi.**

From Rio Hacha, Colombia. Presented by Sr. José Bolivar Nuñez. Received April 17, 1909.

See No. 23335 for description.

*Distribution.*—A tree found in the southern part of Mexico, in the vicinity of Tehauntepec, and in Venezuela and the islands of Jamaica, Trinidad, and Haiti.

**25309.** AMYGDALUS PERSICA L. **Peach.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received April 21, 1909.

"*Tenshin* blood peach."

**25315.** ZINZIBER OFFICINALE Rosc. **Ginger.**

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden, Calcutta. Received April 23, 1909.

Procured for Dr. R. H. True's experiments.

**25316.** PINUS GERARDIANA Wall.

From Fort Sandeman, Baluchistan. Procured from Lieut. Col. G. C. Trench, I. A., political agent in Zhob. Received April 22, 1909.

See No. 21819 for description.

**25316**—Continued.

*Distribution.*—A large tree, native to the dry interior valleys of the Himalaya Mountains in the northern part of India and Afghanistan, rising to an elevation of 12,000 feet.

**25317 and 25318.** AVENA SATIVA L. **Oat.**

From Madrid, Spain. Presented by Mr. R. M. Bartleman, American consul. Received April 22, 1909.

Seed of the following:

**25317.** "Spanish oats, first quality."

**25318.** "Spanish oats, second quality."

**25319.** AVENA SATIVA L. **Oat.**

From Toscana, Italy. Presented by Mr. Willy Müller, Hortus Nucerensis, Nocera Inferiore, Italy. Received April 16, 1909.

"First quality oats."

**25320 to 25323.** AVENA SATIVA L. **Oat.**

From Spain. Presented by Don Emillano Lopez, Murcia, Spain. Received April 15, 1909.

Seeds of each of the following:

**25320.** *Hungria.*

**25321.** *Kirsche.*

**25322.** *Lioscoln.*

**25323.** *Gigante.*

**25324 to 25326.** AVENA SATIVA L. **Oat.**

From Valencia, Spain. Presented by Escuela Pratica de Agricultura, at the request of Hon. Charles S. Winans, American consul. Received April 22, 1909.

**25327.** MEDICAGO SATIVA L. **Alfalfa.**

From Hamburg, Germany. Secured from R. Liefman Sons, Successors, through Mr. Charles J. Brand. Received April, 24, 1909.

*Alt-Deutsche Fränkische luzerne.*

**25328 to 25344.**

From the district Sansane-Mangu, in the northern part of Togo, German West Africa. Presented by Doctor Meyer, Governor of Togo. Received April 7, 1909.

The following seeds collected December 28, 1908. Quoted notes by the collector; descriptions of varieties by Mr. Carleton R. Ball.

**25328 to 25342.** ANDROPOGON SORGHUM (L.) Brot.

**25328.** "Native name *Aparku fofoé*. Grown on the lighter sandy soils of the grass steppe. An early variety, ripening in 4 months; 2 or 3 meters high." Variety *ovulifer* Hack., form I, with black glumes and white seeds. Almost identical with S. P. I. No. 18180.

**25329.** "Native name *Aparku* (rot). On light sandy soils. An early variety, growing 2 or 3 meters high." Variety *ovulifer* Hack., form II, with black glumes and reddish brown seeds. Equivalent to S. P. I. No. 18198.

**25328 to 25344**—Continued.

**25328 to 25342**—Continued.

**25330.** "Native name *Adyiba* (rot). Lighter sandy soils containing swamp ore; 2 to 3 meters high. A late variety, ripening in 6 months. Used for flour and beer." Variety *ovulifer* Hack., form VI. Glumes dark reddish brown. Equivalent to S. P. I. No. 18189.

**25331.** "Native name *Adyiba* (weiss). From same soil as preceding (S. P. I. No. 25330), and same description applies to it." Variety *ovulifer* Hack., form I, with black glumes and seeds white with a slight yellowish tinge.

**25332.** "Native name *Banambo.* Light sandy soils. Differs from preceding in color of seeds. More commonly used for flour making. Ripens in 6 months." Variety *orulifer* Hack., form I, with black glumes and seeds white with a slight yellowish tinge.

**25333.** "Native name *Tyentyenyark.* Light clay and sandy soils; 3 meters high. An early variety used for flour. Ripens in 5 months." Same as No. 25330; equivalent to S. P. I. No. 18190.

**25334.** "Native name *Soch* (Sopienge). Light clay and sandy soils. Grows 2 to 3 meters high. An early variety, ripening in 4 months. Used for flour because of the very white seed coats." Variety *elegans* Kcke. White seeded.

**25335.** "Native name *Somong.* Soils as in Togo No. 6 (S. P. I. No. 25333). Grows 2 to 3 meters high. Early ripening sort with white seeds like Togo No. 7 (S. P. I. No. 25334)." Variety *elegans* Kcke. A red-seeded form equivalent to S. P. I. No. 18196.

**25336.** "Native name *Langpategu.* Soils as in No. 6 (S. P. I. No. 25333). Heads shorter and more compact than in the preceding forms; white hulled. An early variety used for making beer and flour. The most prized variety of the Moba people." Represents the variety *intermedius* B. & P. Remarkable for its bluish gray seed; somewhat like a *New Era* cowpea in color.

**25337.** "Native name *Pebate.* Grows 3 to 4 meters high. A late ripening variety, requiring 6 months to mature." Variety *elegans* Kcke., having shorter, blunter, and more compressed glumes.

**25338.** "Native name *Tanyou* (lila)." Variety *intermedius* B. & P. Very similar to S. P. I. No. 25336.

**25339.** "Native name *Nyumbayone bimle* (Doppelfrucht). Originally from Haut Senegal, Guinea. In this variety the black glumes contain always 2 kidney-shaped white seeds." Belongs apparently to variety *elegans* Kcke., but differs from all other forms in having 2 seeds to each spikelet, a condition which occurs in a number of varieties from India.

**25340.** "Native name *Beninga* (Pferdefutter). With specially hard-hulled seeds. Used for horse feed." Probably variety *bicolor* Kcke. Seeds pure white, equaled in length by the jet-black shining glumes, a form not previously reported from Togoland.

**25341.** "Native name *Ehpeto* (gelb). Grows 3 to 4 meters high. A late ripening sort, requiring 7 months. The meal has a somewhat bitter taste." Belongs to variety *kerstingianus*, subvariety *sulfureus* B. & P. Remarkable for its sulphur-yellow seed. Equivalent to S. P. I. No. 18147.

**25328 to 25344**—Continued.

**25328 to 25342**—Continued.

**25342.** "Native name *Sotemondi.* From light sandy soils; 3 meters high; a late ripening variety. The leaves contain a coloring matter used for cloth and leather; otherwise used only for chicken feed." Variety *colorans* Pilger. Seeds of this variety are used for producing a red color or by the addition of the leaves of certain trees they may be used for producing a black color. Equivalent to S. P. I. No. 18165.

**25343 and 25344.** PENNISETUM AMERICANUM (L.) Schum. **Pearl millet.**

**25343.** "Native name *Nyepé* (weiss). Grown on the lighter sandy soils; 1.5 meters high."

**25344.** "Native name *Nyepé* (dunkel). Grown on the lighter sandy soils; 1 to 1.5 meters high."

**25347.** MUCUNA ATROPURPUREA (Roxb.) DC.

From Peradeniya, Ceylon. Presented by Dr. John C. Willis, director, Royal Botanic Garden. Received April 23, 1909.

*Distribution.*—A woody climber, native of the plains of India and Ceylon.

**25350.** CHALCAS PANICULATUS L.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received April 30, 1909.

"The wood is close grained, hard, white, and has been used for wood engraving." (*Brandis, Forest Flora of India.*)

*Distribution.*—A tree or shrub, native of southeastern Asia, where it rises to an elevation of 4,500 feet in the Himalaya Mountains, and of the Malay Archipelago and Australia. Cultivated in gardens as an ornamental in its native countries and in southern Florida and California; also used as a greenhouse plant.

**25351 to 25371.**

From Madrid, Spain. Presented by Dr. Luis Atrido y Ramos, director, Botanic Gardens. Received April 13, 1909.

The following seeds:

**25351.** AVENA NUDA L.

**25352.** AVENA PLANICULMIS Schrad.

*Distribution.*—A native of the meadows in the mountainous parts of southern Europe and Asia Minor.

**25353 to 25360.** AVENA SATIVA L.

**25361 to 25363.** AVENA STERILIS L.

*Distribution.*—A native of the Mediterranean region, found as a weed in cultivated fields.

**25364.** AVENA STRIGOSA Schreb.

*Distribution.*—A native of Europe and western Asia, cultivated and occurring as a weed in cultivated fields.

**25365 to 25367.** AVENA sp.

**25368.** DESCHAMPSIA ALPINA (L.) R. & S

*Distribution.*—A native of northern Europe, being found mostly along streams and on lake shores.

**25351 to 25371**—Continued.

**25369 to 25371.** DESCHAMPSIA ATROPURPUREA (Wahlenb.) Scheele.

*Distribution.*—A native of arctic regions, extending from Alaska to Labrador, and in northern Europe and Siberia.

**25389 and 25390.** AVENA SATIVA L. **Oat.**

From Seville, Spain. Presented by Mr. R. L. Sprague, American consul, Gibraltar, Spain. Received April 30, 1909.

**25435.** LECYTHIS USITATA Miers. (?) **Sapucaia nut.**

From Port of Spain, Trinidad, British West Indies. Presented by Dr. E. Andre. Received May 1, 1909.

"This is the species which produces the well-known sapucaia nuts of commerce; it abounds in the island of Caripe and other parts of the province of Para (Brazil)." (*J. Miers, Transactions, Linnæan Society, vol. 30, p. 208.*)

**25436.** TUMBOA BAINESII Hook. f.

From German Southwest Africa. Presented by Prof. J. Burtt Davy, government agrostologist and botanist, Transvaal Department of Agriculture, Pretoria, Transvaal, South Africa. Received May 1, 1909.

"A peculiar and rare monotypic plant of the deserts of German Southwest Africa. The short stem produces at its swollen apex, besides the cotyledons, in its entire lifetime only a single pair of yard-long ribbonlike leaves between which are borne the conelike inflorescences. The plant represents in its development (like Gnetum, see No. 19093) a transition stage between the lower gymnosperms, like the pines, and the angiosperms, or flowering plants." (*W. Fischer.*)

*Distribution.*—A native of the stony desert plains in the vicinity of Mossamedes and Cape Negro in Portuguese West Africa, and in Damara-land in German West Africa.

*Note.*—This plant is the *Welwitschia miriabilis* of the botanical text-books and is as yet not generally known to the general reader under the above Latin name.

**25437 to 25440.**

From China. Procured from Mr. H. J. Openshaw, Yachow, Szechwan Province, via Chungking, West China. Received March 3, 1909.

The following seeds; Chinese names given by Mr. Openshaw.

**25437 and 25438.** GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

**25437.** *Huang dou.* Looks like *Acme.*

**25438.** *Lu dou.* Very similar to *Guelph.*

**25439.** PISUM ARVENSE L. **Field pea.**

*Wan dou.*

**25440.** DOLICHOS LABLAB L. **Bonavist bean.**

*Beh pien dou.* White.

**25464.** CUCUMIS MELO L. **Muskmelon.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received May 5, 1909.

*Makuwa-uri.*

**25464**—Continued.

"This is produced much in the village Makuwa, in the province of Mino, whence the name is derived. The male and female flowers are grown separately on the same vine. The fruits ripen in midsummer. They are oval shaped, about 5 inches long, and of a yellow color, with longitudinal stripes. They are eaten 1 or 2 days after having been collected, and are very sweet and delicious. There are several varieties of different colors and forms." (*Yokohama Nursery Company.*)

**25465.** MELILOTUS INDICA (L.) All. **Melilot.**

From King Island. Presented by Mr. Henry S. Baker, American consul, Hobart, Tasmania. Received April 20, 1909.

This yellow-flowered melilot, which has made for itself such an enviable reputation in the improvement of the soil of King Island, was introduced there supposedly from the mattresses left on the shore by sailors or washed up on the beach from wrecks of vessels along the coast.

Mr. Henry D. Baker, American consul, Hobart, Tasmania, has furnished the following information about its usefulness on King Island:

Melilot has in the last few years transformed the island, which seemed absolutely barren or given up to worthless vegetation, including chiefly bracken fern and ti-tree scrub, Tussock grasses and rushes, into what is now the most profitable grazing and fattening area in Australasia. It has grown even on raw white sand near the seashore, and in the course of 5 or 6 years has transformed the soil into rich, dark-brown, almost black loam, and made it capable of growing good crops of oats, lucern, etc. Land which half a dozen years ago was worth only a little over one dollar an acre now has an assessed valuation, where melilot is thriving, of about 35 dollars an acre.

Not until there had been severe fires over the island did the growth of melilot become luxuriant or have its usefulness recognized. The seed, encased in a hard shell, appears to germinate more quickly when this shell has been cracked open by fire. Farmers, in securing a stand of melilot on new ground, sow the seed in the scrub and bracken ferns late in the fall or winter and then burn off the brush. This burning of the brush adds potash to the soil and covers the seed, and also improves the germination, as stated previously. If a rain follows the fire, the seed usually germinates quickly and an excellent growth is secured.

This melilot is strictly an annual and dies off each year, the practice being to burn the old stems in January and February. This burning clears the soil of rubbish, and the stand of melilot becomes more perfect each season.

Melilot, in the latter part of November, was on the average about 3 feet high. Cut for hay about the middle of December, it makes splendid feed and all stock like it in this form. The estimated average yield of melilot in dry hay is 2½ tons per acre. Melilot-fed horses are of great size and strength, and have great endurance.

Mr. Baker suggests that melilot might possibly be introduced to advantage on the sandy wastes along the Atlantic and Pacific coasts of the United States, where the climatic conditions are not unlike those of King Island, which is intercepted by the fortieth degree of south latitude and normally has a good rainfall.

It would be a mistake to consider melilot better than alfalfa or other useful home fodders, its advantage being in its ability to redeem poor land. On very fertile soil in New South Wales and Victoria it has proved a rather baneful weed.

**25466.** RUBUS sp. **Raspberry.**

From Bataan Mountains, Philippine Islands. Presented by Mr. William S. Lyon, Gardens of Nagtajan, Manila, Philippine Islands. Received May 7, 1909.

**25466**—Continued.

"A rather promising and prolific wild red raspberry. It was in fully ripe fruit March 1 and found at 3,700 feet altitude on dry, rocky, sterile ridges. Should prove hardy. A little dry (not offensively so) and quite as showy as the best garden *Cuthbert* I ever recall seeing." (*Lyon.*)

**25467.** SOLANUM ZUCCAGNIANUM Dunal.

Grown at Miami, Fla., by Mr. P. J. Wester, in charge, Subtropical Garden. Numbered for convenience in recording distribution, May 8, 1909.

An herbaceous plant, growing about 2 feet high, with smooth, ovate, wavy-margined leaves on long petioles. The flowers are white, borne in clusters of 1 to 3 or more, on short, drooping stems. The fruit is round, about ½ inch in diameter, roughened and furrowed, becoming red when ripe.

**25468.** GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

From Madison, Wis. Purchased from the L. L. Olds Seed Company. Received May 8, 1909.

*Wisconsin Black.* "This variety has proved to be one of the earliest growing in Wisconsin, but gives a relatively poor yield of seed and forage. While the records are somewhat incomplete, it is almost certainly the direct descendent of S. P. I. No. 5039." (*C. V. Piper.*)

**25469.** ORYZA SATIVA L. **Rice.**

From Canton, China. Presented by Mr. Leo Bergholz, American consul-general, at the request of Mr. Amos P. Wilder, American consul-general, Hongkong, China. Received May 8, 1909.

*Szemiu.* "This is absolutely the best rice grown within this province." (*Bergholz.*)

**25470 to 25504.**

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, April 27, 1909.

Seed of each of the following. Quoted notes by Mr. Husbands.

**25470.** LAPAGERIA ROSEA R. & P.

"*Coigüe.* A comestible fruit and handsome evergreen vine, very like *Copigue;* strange flowers, medicinal; thrives in the shade on damp soil."

*Distribution.*—An evergreen vine, found climbing over trees and shrubs in the woods about Concepcion and in the valley of the Rio Itata, in Chile.

**25471.** ACAENA sp.

"*Cadillo.*"

**25472.** RUMEX ROMASSA Remy.

"A pest plant that will grow dry anywhere; the leaves are eaten like spinach; animals eat the leaves of this class from the south of Puerto Montt. Might serve to start vegetation in some barren place. Medicinal."

*Distribution.*—An herbaceous plant, found growing around the villages and along the roadsides in the provinces of Chiloé and Valdivia, in Chile.

**25473.** GREIGIA LANDBECKI (Lechl.) Philippi.

"*Chupones* from Chiloé."

*Distribution.*—A native of the mountainous coast of Chile, in the province of Valdivia.

**25470 to 25504**—Continued.

**25474.** SALIX HUMBOLDTIANA Willd.

"Wild willow; grows in the sand near rivers. Medicinal."

*Distribution.*—A native of Central and South America, extending from southern Mexico through Colombia to Chile and Brazil.

**25475.** (Undetermined.)

"Forest trees from near Puerto Montt."

**25476.** GREIGIA SPHACELATA (R. & P.) Regel.

"*Chupones* from Valdivia."

*Distribution.*—A native of damp, shady places in the vicinity of Concepcion, Chile.

**25477.** GUNNERA CHILENSIS Lam.

"*Pangue*, from Puerto Montt. Comestible by man and beast; ornamental; medicinal; needs very damp or wet soil or water."

*Distribution.*—A large-leaved herbaceous perennial found in shallow water and swamps in Chile.

**25478.** SOPHORA MACROCARPA Smith.

"*Mayu.* A treelet with large bunches of beautiful yellow flowers."

*Distribution.*—A shrub or small tree, with racemes of yellow flowers, native of Chile.

**25479.** SOPHORA TETRAPTERA J. Mill.

"*Pelú.* One of the finest flowering forest trees; wood extra valuable; yellow flowers."

*Distribution.*—A shrub or small tree, native of New Zealand, Lord Howe Island, Juan Fernandez, and Chile. Several varieties are in cultivation.

**25480.** PHYSALIS sp.

"*Capuchinos.* A wild, comestible hooded tomato; round; yellow; $\frac{5}{8}$ to $\frac{3}{4}$ inch in diameter; a smooth ball. Perennial."

**25481.** GALEGA OFFICINALIS L.

"Plant like alfalfa. Two plants found growing in a sand island of the river Mata Quita. The habits, growth, and flowers are like alfalfa; stems hollow and when cut plant grows again quickly; seed pods different. Has a large dense leaf growth. Cattle eat this, but not horses. I should like to know what would come of crossing this with alfalfa."

**25482.** (Undetermined.)

**25483 and 25484.** MEDICAGO SATIVA L. **Alfalfa.**

**25483.** "A wild sort from the cordillera; a single plant found in the midst of the woods. The same as cultivated sorts. Flowers very dark; might be so from the wood shade."

**25484.** "Same as above (S. P. I. No. 25483); another plant in a distant part."

**25485 and 25486.** TRIFOLIUM HYBRIDUM L. **Alsike clover.**

**25485.** "Crimson wild sort; beautiful."

**25486.** "White wild sort."

**25487.** TRIFOLIUM PRATENSE L. **Red clover.**

"Pink, large, cone-shaped flowers; wild."

**25470 to 25504**—Continued.

**25488.** (Undetermined.) (Asteraceæ.)

"A perennial plant; whitish leaves; pink flowers; might serve as a fodder plant. Cattle and mules eat it; grows dry in pure sand near vast river beds."

**25489.** Crinodendron patagua Molina.

"*Patagua.* A beautiful, evergreen shade tree; drooping, white, bell-shaped flowers; tree formed like a weeping willow. Needs damp soil, beside running water, swamps, etc. Lumber lasts long dry. Bad for fuel wood."

*Distribution.*—A medium-sized tree, growing in the low, swampy woods in the vicinity of Puchacay and Itata, and in the province of Maule, in Chile.

**25490.** Eucryphia cordifolia Cav.

" *Ulmo* is a hardy giant Chilean forest tree, known from Chile to Victoria as *ulmo;* farther south to Valdivia, Chiloé, and in the far south it is called *muermo.* The wood is hard, fine, and extra durable in water; is largely used for piles driven in the sea, in naval construction, furniture, the industries, etc. Its planks and knees are better than live oak for shipbuilding. The bark and scraped wood contain a great quantity of tannin and are largely used for tanning. The wood shavings are used anywhere that tannic acid is required instead of the acid itself. In combination with linge (*Persea lingue*) the *ulmo* has special merits for tanning.

"As a tree *ulmo* is one of the largest and is extremely handsome; its dark, evergreen, lustrous leaves are so whitened underneath as to be very ornamental. When in flower it is gloriously beautiful. The shape of its white flowers is similar to that of the apple or quince, about 2 inches in diameter. The entire tree is actually covered with immense grand bunches of these flowers, forming an ideal fairy tree of snow, whose bloom is deliciously and incomparably fragrant.

"The *ulmo* is not particular as to soil, but, like linge, needs those that are very damp or wet; in fact, they always grow together as comrades, linge enhancing the beauteous bloom of the *ulmo* upon its superbly dark evergreen leaves."

*Distribution.*—A tall, white-flowered tree, native of the region around San Carlos, in Chile.

**25491 and 25492.** Embothrium coccineum Forst.

**25491.** From Puerto Montt.

**25492.** From Chiloé.

"*Ciruelillu.* A beautiful flowering tree; blossoms red."

*Distribution.*—A native of the southern part of Chile.

**25493.** Weinmannia trichosperma Cav.

*Teniu.*

*Distribution.*—A small tree, found in the region of San Carlos, in Chile.

**25494 to 25503.** Cucumis melo L. **Muskmelon.**

"All sweet; thick flesh; good size; grown dry on low lands where corn and watermelons dried up on account of the unusual drought. Melons grown with much less moisture than watermelons and have no diseases like the latter. Every number is a different kind."

**25504.** Citrullus vulgaris Schrad. **Watermelon.**

**25505.** MANGIFERA INDICA L. **Mango.**

From Miami, Fla. Received from Mr. P. J. Wester, in charge, Subtropical Garden, May 24, 1909.

*Gopalbhog.* "The plant from which this inarch was taken was sent to the garden in 1906 by Mr. E. N. Reasoner, of the Royal Palm Nurseries, Oneco, Fla., who imported it from India in 1904." (*Wester.*)

**25506.** CITRUS DECUMANA (L.) Murr. **Pomelo.**

From Amoy, China. Presented by Mr. Julean H. Arnold, American consul. Received at the Plant Introduction Garden, Chico, Cal. April 10, 1909.

*Amoy.* See No. 21870 for previous introduction and note.

**25507.** MANIHOT DICHOTOMA Ule.

From Bahia, Brazil. Presented by Mr. Stevenson, agent of the Royal Mail Company. Received May 25, 1909.

*Maniçoba de Jequié.*

"The *Maniçoba de Jequié* differs from the *Manihot glaziovii* (Muell.) Arg. in having 3 to 5 lobed leaves, and longer seeds. The tree composes about half of the forest on many of the slopes of the mountains in its native region, and furnishes four to five hundred tons of rubber each year. The plant has only been known since 1901, and the cultivated plantations are just ready to be tapped for the first time." (*Ule, Tropenpflanzer, vol. 11, p. 863.*)

*Distribution.*—A tree, native of the mountainous region between the Rio Paraguassu and the Rio de Contas, in the eastern part of the province of Bahia, in Brazil.

**25508.** SCHOENOCAULON OFFICINALE (Schlecht.) Gray. **Sebadilla.**

From New York, N. Y. Presented by Lanman & Kemp, at the request of Dr. L. O. Howard, entomologist. Received May 20, 1909.

See No. 24195 for description.

*Distribution.*—A native of southern Mexico, in the vicinity of Zimapan, Orizaba, and Vera Cruz, and also of Guatemala and Venezuela.

**25509.** CITRUS DECUMANA (L.) Murr. **Pomelo.**

From Daunt, Cal. Presented by Mr. A. W. Patton, at the request of Mr. Carl Purdy, Ukiah, Cal. Received May 27, 1909.

"This fruit is undoubtedly fine, but the tree has little or no history. It was put out by Mr. A. M. Coburn 10 or 12 years ago. He got the trees from Los Angeles. The only reason we can give for the fruit being extra good is the climatic conditions which prevail here in the foothills of the Sierra Nevada Mountains." (*Patton.*)

**25510.** ASTRAGALUS sp.

From Mongolia. Presented by Mr. W. W. Rockhill, American minister, Peking, China, who procured it from Monseigneur Bermyn, Bishop of West Mongolia. Received May 5, 1909.

White flowered.

**25511.** EUPHORBIA ANTISIPHYLITICA Zucc. **Candelillo.**

From Saltillo, Mexico. Presented by Mr. J. R. Silliman. Received May 12, 1909.

**25511**—Continued.

"A wild euphorbiaceous Mexican plant which is of great interest because the dry stems yield, it is claimed, from 3 to 5 per cent of a fine hard wax which seems suited to coating phonograph cylinders and similar uses. Grows in the dry semidesert regions of north-central Mexico, Lower California, and southwest Texas." (*Frederic Chisolm.*)

*Distribution.*—A native of the sandy and stony slopes in the Rio Grande Valley, in Texas and Mexico.

**25512.** VIGNA UNGUICULATA (L.) Walp. **Cowpea.**

From New Orleans, La. Purchased from the J. Steckler Seed Company. Received April 29, 1909.

*Steckler's Improved Louisiana Wild.* "This variety, which is really a mixture of varieties, is naturalized in parts of Louisiana, where it volunteers from year to year. It has been grown at Arlington Farm, Virginia, for the past 3 years, and proves to be a tall, upright, quite leafy, late variety. Too late for this latitude, but would probably be a valuable variety for Florida, where lateness is desired." (*C. V. Piper.*)

**25513.** GERBERA JAMESONI Bolus. **Barberton daisy.**

From Cape Town, South Africa. Presented by Mr. H. J. Chalwin, superintendent, Public Gardens. Received May 1, 1909.

"This has a beautiful flower, orange-red in color." (*Chalwin.*)

*Distribution.*—A native of the Transvaal region of South Africa, especially in the vicinity of Barberton.

**25514.** MUCUNA GIGANTEA (Willd.) DC.

From Richmond River, New South Wales, Australia. Presented to Mr. J. H. Maiden, director and government botanist, Botanic Gardens, Sydney. Received May 12, 1909.

"This is a tall tree-climbing tropical plant, extending over East India and the Malayan and South Pacific Islands. In New South Wales it only occurs in the northern districts." (*Maiden.*)

**25515.** CYPHOMANDRA BETACEA (Cav.) Sendt. **Tree tomato.**

From Kingston, Jamaica. Presented by Mr. W. Harris, superintendent, Hope Botanic Gardens. Received May 13, 1909.

See No. 12758 for description.

*Distribution.*—Native and cultivated in Central and South America, extending south to the vicinity of Buenos Aires. Also cultivated in the West Indies, in the Mediterranean region, and other countries.

**25516 and 25517.**

From Gobindapur, India. Presented by Mr. A. C. Roy, secretary, Comilla Victoria College. Received April 19, 1909.

Seed of each of the following:

**25516.** PHASEOLUS RADIATUS L.

Black.

**25517.** LATHYRUS SATIVUS L.

**25518 and 25519.** AVENA SATIVA L. **Oat.**

From Maritime Alps, i. e., near Tenda, Italy. Presented by Mr. Alwin Berger, La Mortola, Ventimiglia, Italy. Received May 6, 1909.

Seed of each of the following:

**25518.** (Marked No. 1.)

**25519.** (Marked No. 2.)

**25520 and 25521.** OLEA VERRUCOSA (R. & S.) Link. **Wild olive.**

From Wellington, Cape of Good Hope, South Africa. Presented by Mr. Charles P. Lounsbury, government entomologist, Cape of Good Hope, Department of Agriculture, Cape Town, South Africa. Received May 18, 1909.

**25520.** Cuttings.

**25521.** Seeds.

See Nos. 9124 and 9559 for previous introductions.

*Distribution.*—A tree, native of the southern part of Africa, extending from the Cape of Good Hope to the Transvaal region.

**25522.** LOLIUM MULTIFLORUM Lam. **Rye-grass.**

From Westerlee, Groningen, Holland. Presented by Hommo Ten Have. Received May 19, 1909.

*Western Wolths.* "This new grass was produced by selection from ordinary rye-grass in the county of Westerwolde, Holland, near the German frontier. In appearance the seed can not be distinguished from Italian rye-grass, but *Western Wolths* grass is strictly an annual plant and far surpasses Italian rye-grass in the rapidity of its growth and the weight of herbage. On good soils, when top-dressed with nitrate of soda, it may be cut 5 or 6 times during the summer. It will thrive on almost all soils, but best results are obtained on heavy loam, clay, or land of a somewhat damp character." (*Extract from circular issued by Hommo Ten Have, wholesale seed merchant, Westerlee, Groningen, Holland.*)

**25523.** PHASEOLUS CALCARATUS Roxb.

Grown at Arlington Farm, Virginia, season of 1908, under temporary No. 0513. Received fall of 1908.

"A small red-seeded variety, obtained from the Tokyo Botanic Garden, Tokyo, Japan, in 1906." (*C. V. Piper.*)

**25524 and 25525.** CYNARA SCOLYMUS L. **Artichoke.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received May 12 and 13, 1909.

Seeds of the following:

**25524.** *Green Provence.* **25525.** *Perpetual.*

**25527.** BUCHANANIA LATIFOLIA Roxb.

From Kavali, Nellore District, India. Presented by Rev. E. Bullard. Received May 17, 1909.

"This is called in the Lelugu language *sara* tree. The fruit is gathered and the pulp being removed the seed is cracked and the inside kernels are eaten as we eat nuts. It is very rich and is considered to be very nice and is eaten roasted a little and, if desired, with honey or salt; it is very wholesome, but should be eaten in small

**25527**—Continued.

quantities only at a time, say not more than a handful of the fruit at a time. The outside part of the fruit is also eaten. The inner part of the seed is sold at the rate of about 20 cents a quart measure full. The tree grows about as high as a small orange tree." (*Bullard.*)

"A large tree belonging to the Anacardiaceæ, to which the pistache nut and cashew nut also belong. Its characteristic bark makes this tree conspicuous wherever it is found. On dry hills like the Siwalik Range it is very useful in covering the ground, and it is equally at home on newly formed landslips as on gentle slopes with fairly good soil. The wood is of poor quality. Brandis says the bark is used for tanning. It gives a gum copiously in large irregular pieces; this gum is only partially soluble in water (about 10 per cent insoluble), but what is soluble gives a good mucilage, and it has been reported as likely to be useful for cheap manufacturing purposes and valued at 20s. per cwt." (*Extract from Gamble's Manual of Indian Timbers.*)

*Distribution.*—Found in the hot, dry parts of India, from Kumaon and Oudh, through central India, and into Burma and Tenasserim, in the eastern peninsula.

## 25528 to 25530.

From Paraguay, South America. Presented by Mr. Thomas Ruffin Gwynn, Capilla Horqueta, Departamento de V. Concepcion. Received May 19, 1909.

The following seeds:

**25528.** Rollinia emarginata Schlecht. (?)

"*Chirimouia* (araticuý). It is a large fruit, aromatic to the utmost; seed full of oil." (*Gwynn.*)

*Distribution.*—A native of southern Brazil and the northern parts of Argentina and Paraguay.

**25529.** Ilex paraguariensis St. Hil.

"*Yerba* (caá). The tea of this country. To procure plants from this seed it will be necessary to put it in hot water of about 90° F. for 26 hours, then plant in a hotbed, the seed being buried about ½ inch under a soft mold, constantly watered every day. When large enough to harvest, you cut all the limbs and twigs, scorch well, and dry twigs and leaves over a hot fire, after which twigs and leaves are ground fine and used as tea, being put in a small gourd with hot water poured on, and a tube perforated at the bottom to suck up the same." (*Gwynn.*)

*Distribution.*—A native of Paraguay and cultivated in Argentina and Brazil.

**25530.** Bombax sp.

"Vegetable silk (paina), used here for pillows and mattresses, though some fine hammocks and shawls have been woven out of it. This plant opens its pod in July and August here, representing October and November with us." (*Gwynn.*)

## 25532. Gladiolus sp.

From Pretoria, Transvaal, South Africa. Presented by Mr. F. T. Nicholson, secretary, Transvaal Agricultural Union. Received May 21, 1909.

## 25533 and 25534.

From Ancon, Canal Zone, Panama. Presented by Mr. H. F. Schultz. Received May 27, 1909.

**25533 and 25534**—Continued.

The following seeds:

**25533.** PRITCHARDIA PACIFICA Seem. & Wendl.

A spineless fan palm, remarkable for its fibrous, fluffy leafstalks.

*Distribution.*—A native of the Fiji and the Samoa Islands.

**25534.** CARLUDOVICA sp.

**25535 and 25536.** BELOU MARMELOS (L.) W. F. Wight. **Bael.**

From India. Presented by Mr. A. Howard, Imperial Department of Agriculture, Pusa, Bengal. Received April 30, 1909.

Seed of each of the following:

**25535.** A variety from Madhaipore, near Dalsing Serai.

**25536.** A small variety from Dalsing Serai, Tirhoot, which is considered to have a good flavor.

See Nos. 22957 and 24450 for general descriptive notes.

*Distribution.*—A small tree, native of India, being found on dry hills from Jhelum to Assam and south to Travancor.

**25537.** MEDICAGO SATIVA L. **Alfalfa.**

From Mitchell, S. Dak. Presented by Prof. W. A. Wheeler. Received May 29, 1909.

*Baltic.* "Grown from S. D. No. 167. This strain, which was originally secured near Baltic, S. Dak., has proved extremely hardy and drought resistant; it possesses the same variegated flowers that are to be observed in the *Grimm* alfalfa and the commercial sand lucern." (*J. M. Westgate.*)

**25538 to 25540.** CUCUMIS MELO L. **Muskmelon.**

From Spain. Presented by J. Lapoulide & Co., Madrid, at the request of Hon. Maddin Summers, American vice-consul. Received May 20, 1909.

"Three varieties, as follows: From Añover, large and sweet. From Valencia, early and very productive. From Villaconejo, valuable for its keeping qualities." (*Lapoulide & Co.*)

"I frankly believe that the introduction of these muskmelons in the United States is a most important matter. The fact is I know of no plant that can equal this one in intrinsic value to the farmer. To say that a successful cultivation of it may mean millions is very little. It means hundreds of millions in time and will be a boon to our farmers entirely unexpected.

"It has been a mania of mine for years, but I have had difficulty in getting some one interested in the matter. In my humble opinion if we can introduce this product, my work as consul here will be well crowned, as the results will be incalculable.

"I do not know if you exactly appreciate the magnificence of this fruit. Our cantaloupes and other classes of melons are common as compared with a first-class Spanish 'melon.' During the month of January and February I had a large lot hanging in my cellars suspended by hemp coverings. Several very prominent New York club men, who were very particular about their menus and criticised the Hotel de la Paix and the Hotel de Paris for their food, dined with us. It appears that their great complaint came from the fact that in Spain, a country famous for its fruits, they could find nothing that warranted this 'fama.'

**25538 to 25540**—Continued.

"I then put several melons on ice—imagine in February--and they were served. At first they hesitated, and could not believe that a green looking melon, at that time of the year, could be eaten. They tried it, and asked that others be put on ice, as they had never tasted so delicious a fruit in their lives. They took with them a large quantity and asked me the address of a dealer to have a lot sent to them in New York. The next day they wrote me a letter and asked if they could come to tea and if I would have some more of these melons on ice.

"This fact will show you really what they are. These melons can easily be kept until March by paying great attention to the dryness of the cellars where they are kept. The yield per acre is very large and the great question is to obtain pure seeds. There are, however, planters who pay great attention to the matter and grow on their estates only the pure melon. In Guadalajara there are some and in Valencia there are the best.

"They are never hung in the sun to ripen. They are picked just before ripening, covered with a jute net, and hung up in a dark, dry place. When they are to be eaten they are taken out, hung in the sun for a short time, and when soft at the ends are ready for use." (*Extract from letter of Hon. Maddin Summers, April 20, 1909.*)

**25541 and 25542.**

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden. Received June 2, 1909.

Seed of each of the following:

**25541.** Terminalia bellerica (Gaertn.) Roxb.

"A handsome tree, native in southern Asia, the fruits of which, collected when full grown but still unripe, and dried in the sun, form the Beleric myrobalans of commerce. These fruits contain about 12 per cent of tannin, but as a tanning material are inferior to the fruits of the following species." (*W. W. Stockberger.*)

*Distribution.*—A large tree, found throughout India, and in Ceylon and the Malay Archipelago.

**25542.** Terminalia chebula Retz.

"A large deciduous tree, occurring chiefly on the mountains of India. The fruits, known as Chebulic myrobalans, are extensively used in tanning, over 20,000,000 pounds being imported into the United States in 1908 for that purpose. These fruits yield from 30 to 40 per cent tannin, which occurs chiefly in the pulp surrounding the kernel. The tree is occasionally cultivated up to 5,000 feet in the Himalayas. Seedlings grown at Chattanooga, Tenn., were cut down by frost." (*W. W. Stockberger.*)

*Distribution.*—A tall tree, native of India, extending from Kumaon to Bengal, and in Ceylon and the Malay Archipelago.

**25543.** Acacia catechu (L.) Willd.

From Saharanpur, United Provinces, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden, Sibpur, Calcutta. Received June 2, 1909.

"A leguminous tree, native of India and East Africa, naturalized in Jamaica, where it is common in dry locations. It is said to bear some frost and may prove hardy in favorable localities in the southern United States. The extract from the

**25543**—Continued.

bark and wood forms the drug catechu, and the dyeing and tanning agent cutch." (*W. W. Stockberger.*)

*Distribution.*—A medium-sized tree, native of India, being found in the Himalayas from the Punjab to Sikkim, and in Burma.

## 25544 to 25546.

From Alger-Mustapha, Algiers, North Africa. Purchased from Rossier Frères et Soeur. Received May 29, 1909.

Plants of each of the following:

**25544.** Citrus bergamia Risso.

"This is the bergamot, grown commercially in some parts of southern Italy for the essential oil which is expressed from the peel of the fruit. This has been imported for the citrus-breeding experiments of the Office of Crop Physiology and Breeding Investigations." (*W. T. Swingle.*)

**25545.** Citrus nobilis Lour.

*Clémentine.* See No. 25196 for description.

**25546.** Claucena lansium (Lour.) Skeels. (Cookia punctata Sonnerat.; Quinaria lansium Lour.; Claucena wampi Oliver.)

"This is the well-known wampee which is cultivated for its fruits in southern China. These fruits are said to be of a very agreeable though somewhat aromatic flavor and are about the size of a loquat, though the tree is probably not so hardy. These plants were imported for the breeding experiments of the Office of Crop Physiology and Breeding Investigations." (*W. T. Swingle.*)

## 25547. Raphionacme utilis Brown & Stapf. Ecanda rubber.

From Ochileso, Africa. Presented by Mr. T. W. Woodside, A. B. C. F. M., Benguella, Angola (via Lisbon). Received June 1, 1909.

"A rubber-producing member of the milkweed family, recently described as a new species. (Kew Bulletin, 1908, p. 215.) The genus already includes about 20 species distributed through the subtropical desert regions of the southern part of Africa. The plant may be described as a perennial herb or very low shrub. There is a large, fleshy, flattened, turnip-shaped, perennial root, said to attain a diameter of 5 or 6 inches, though the present supply does not contain roots larger than 4 inches. The other parts of the plant are annual, except for a short stem or crown which produces a succession of short branches, but apparently only one at a time. Temporary roots appear to be sent out from any part of the permanent root.

"The structure and habits of growth indicate that the plant behaves in nature as an extreme desert type able to survive with very little water and requiring several years to reach maturity. More favorable conditions might hasten development, but might also have an adverse effect on the amount of rubber produced. The proportion of rubber extracted from the fresh roots falls below 1 per cent, too little to justify any assurance of commercial value. But if simple methods of propagation can be learned we may expect to secure strains that contain larger amounts of rubber, through selection and breeding. It is first necessary to ascertain whether the plant can be grown and multiplied in the United States, either from seeds or from cuttings.

"The roots should not be buried too deeply, only enough to bring the stem end to the surface of the ground. Soil of a loose, open texture may be preferable, though we have no detailed information regarding the natural conditions." (*O. F. Cook.*)

**25547**—Continued.

"I am told that the keeping qualities of the bulb rubber are not good. I do not think that the Portuguese are very competent to decide that matter. The plant bears a pod full of seeds, so that if it proves of value seeds could be had in quantity." (*Woodside.*)

*Distribution.*—An herbaceous perennial, found in the vicinity of Lake Nyassa, in Central Africa.

**25561.** MEDICAGO SATIVA L. **Alfalfa.**

Received through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., while traveling as an agricultural explorer for the Department of Agriculture in 1908. Numbered for convenience in keeping records, June 9, 1909.

"(No. 248.) Plants of native alfalfa as grown by the Arabs in the oases of the Desert of Sahara. These I received at Biskra, Algiers, January, 1909." (*Hansen.*)

**25580 to 25591.** AVENA SATIVA L. **Oat.**

From Bucharest, Roumania. Presented by Hon. Horace G. Knowles, envoy extraordinary and minister plenipotentiary, American Legation. Received May 22, 1909.

The following seeds:

**25580.** *Duppau.*
**25581.** *Anderbeck.*
**25582.** *Mezdeag.*
**25583.** *Bucium.*
**25584.** *Besseller No. 2.*
**25585.** *Ligovo.*
**25586.** *Probstei.*
**25587.** *Besseller No. 1.*
**25588.** *Leutewitz.*
**25589.** *Comun.*
**25590.** *Besseller No. 3.*
**25591.** *Românesi selection.*

**25592 and 25593.**

From Sianfu, Shensi, China. Presented by Mr. D. C. Sowers, of the Carnegie Institute, Washington, D. C. Received March 31, 1909.

Seed of the following:

**25592.** BRASSICA RAPA L. **Turnip.**

Large flat green.

**25593.** RAPHANUS SATIVUS L. **Radish**

Red.

**25594 and 25595.** CUCURBITA PEPO L. **Squash.**

From Japan. Presented by Mr. J. R. Lawrence, Raynham, Mass. Received June 5, 1909.

The following seeds:

**25594.** *Chirimen.*
**25595.** *Rikusa.*

**25596 to 25604.** ORYZA SATIVA L. **Rice.**

From Port of Spain, Trinidad. Purchased from Mr. F. Evans, acting superintendent, botanical department, Department of Agriculture. Received June 8, 1909.

**25596 to 25604**—Continued.

The following varieties:

**25596.** *Mutmuria.*

**25597.** *Mutmuria.* "Possibly different variety from the above (S. P. I. No. 25596)."

**25598.** *Mutmuria.* "Second variety, large grain."

**25599.** *Mutmuria.* "Third variety, small grain."

**25600.** *Joviva.*

**25601.** *Jarahur.*

**25602.** *Jarahan.*

**25603.** *Sahandeya.*

**25604.** *Joyia.*

**25605 to 25607.** MEDICAGO SATIVA L. **Alfalfa.**

From Mitchell, S. Dak. Presented by Prof. W. A. Wheeler. Received June 7, 1909.

Seed of the following; descriptive notes by Mr. J. M. Westgate.

**25605.** *Grimm.* Grown from S. D. No. 162. This special lot proved the hardiest of the 2 lots of *Grimm* alfalfa under test.

**25606.** *Turkestan.* Grown from S. D. No. 164. In all the tests made at Brookings and Highmore, S. Dak., this has appeared to be almost if not quite perfectly hardy. The best of all the Turkestan alfalfas tested under South Dakota conditions.

**25607.** *Turkestan.* Grown under S. D. No. 240, originally from S. P. I. No. 991. Hardy but not a prolific seeder.

**25608.** NAGEIA ELATA (R. Br.) Muell.

From Sydney, New South Wales, Australia. Presented by Prof. J. H. Maiden, director, Botanic Gardens. Received June 7, 1909.

*Distribution.*—A large tree, native of southeastern Australia, occurring in Queensland and New South Wales.

**25609.** CAESALPINIA SAPPAN L.

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden. Received June 8, 1909.

"A shrubby leguminous tree bearing showy yellow flowers. Adapted to poor dry lands. 'From its quasi-deciduous character would doubtless endure pretty low temperatures' (*W. S. Lyon*). May prove hardy in the Southern States. The wood, known to commerce as sappan wood, yields a red dye; the bark is used for tanning in India and China. As an ornamental it makes a fine hedge." (*W. W. Stockberger.*)

*Distribution.*—A native of India and the Malay Archipelago.

**25610.** IPOMOEA sp.

From Belize, British Honduras. Presented by Mr. E. J. F. Campbell, superintendent, Botanical Station. Received June 9, 1909.

"Tubers of an indigenous plant. The tubers are eaten by the natives raw and saladlike. It is known by the name of *ecama.*"

## 25611 to 25618.

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, June 8, 1909.

The following seeds; quoted descriptions by Mr. Husbands.

**25611.** Gevuina avellana Mol.

"From the cordilleras of central Chile. Will not grow north of latitude 34°."

*Distribution.*—An evergreen tree, native of the Andes of Chile; cultivated sparingly in California.

**25612.** Jubaea chilensis (Mol.) Baill.

"Palm of Chile, large tree with very large bunches of nuts."

*Distribution.*—The native palm of Chile, found in the provinces of Quillota and Maule.

**25613.** Phragmites vulgaris (Lam.) B. S. P.

"A tall, wide-leaved, reedlike wild grass, used for thatching houses. Eaten by horned cattle. Ornamental."

**25614 to 25617.** Persea gratissima Gaertn. f. **Avocado.**

"Paltos, Chile classes, of excellent quality, somewhat smaller than those of Peru."

**25618.** Cucumis melo dudaim (L.) Naudin.

"Fragrant melon; color yellow with red stripes; eatable; is about the size of an orange; plant like other melons but smaller. Crossed with other melons might give something new."

*Distribution.*—Found in Persia, Egypt, and Algeria, and cultivated in other countries.

## 25619 and 25620. Citrus spp.

From Brisbane, Queensland, Australia. Presented by Mr. Ernest G. E. Scriven, undersecretary, Department of Agriculture and Stock. Received June 10, 1909.

**25619.** Citrus australis (Cunn.) Planch.

*Distribution.*—A small tree, native of the southeastern part of Queensland, Australia.

**25620.** Citrus australasica Muell.

See S. P. I. No. 21306 for previous introduction and description.

*Distribution.*—A shrub, native of the southeastern part of Queensland and the northeastern part of New South Wales, in Australia.

## 25621. Avena sativa L. Oat.

From Amasia, Turkey in Asia. Presented by H. Caramanian & Co. Received June 11, 1909.

*Soulou Ova.*

## 25622 to 25630.

The following material received at the Upper Mississippi Valley Plant Introduction Garden, Ames, Iowa. Numbered for convenience in recording distribution, June 11, 1909.

**25622 to 25630**—Continued.

**25622.** PYRUS sp. **Pear.**

"(Iowa Expt. Sta. No. 464, 1906.) Seeds were secured from Mr. W. S. Ament, Peking, China. In his letter Mr. Ament states that the fruit came from a long distance, mostly from the mountain regions." (*S. A. Beach.*)

**25623.** PYRUS sp. **Pear.**

"(Iowa Expt. Sta. No. 89, 1907.) Seed received from Mr. H. P. Perkins, Poatingfu, China. In his letter of January 14, 1907, Mr. Perkins says: 'I inclose seeds of the only pear that grows in this region. It is far from being an A-1 pear but it is large and keeps well into the spring.'" (*S. A. Beach.*)

**25624.** SORBUS sp. **Mountain ash.**

"(Iowa Expt. Sta. No. 407, 1909.) Native to Alaska. Scions received from Prof. C. C. Georgeson, of the Alaska Agricultural Experiment Station, Sitka, Alaska." (*S. A. Beach.*)

**25625.** CYDONIA sp. **Quince.**

"(Iowa Expt. Sta. No. 518, 1906.) Seed received from Mr. Paul D. Bergen, Shantung, China." (*S. A. Beach.*)

**25626.** MALUS sp. **Apple.**

"(Iowa Expt. Sta. No. 519, 1906.) Seed received from Mr. Paul D. Bergen, Shantung, China." (*S. A. Beach.*)

**25627.** MALUS sp. **Apple.**

"(Iowa Expt. Sta. No. 461, 1906.) Seed received from Mr. W. S. Ament, Peking, China. In his letter Mr. Ament states that the fruit came from a long distance, mostly from the mountain regions." (*S. A. Beach.*)

**25628.** MALUS sp. **Apple.**

"(Iowa Expt. Sta. No. 432, 1906.) Seed received from Mr. H. P. Perkins, Poatingfu, China." (*S. A. Beach.*)

**25629.** MALUS SYLVESTRIS Mill. **Apple.**

*Evaline.* "This variety originated in Wisconsin, not in northern Iowa, as erroneously stated by Hansen.[a] It was one of a lot of seedlings grown from seed brought to Fremont, Waupaca County, Wis., largely from Canada. It was introduced by Mr. William A. Springer, of that place. In 1877 Mr. Springer stated that 'it originated many years ago,'[b] and gave the following description of it: 'Original tree on high, level, dark loam soil. Tree quite upright, but spreading with age. Fruit quite large, with yellowish green color; quality excellent. Season, February to March.'

"It is distinct from the *Evelyn*, which originated with Mr. A. B. Lyman, Excelsior, Minn., from seed of the *Wealthy*, and which is a dark-red apple or yellow, striped with red. It is also distinct from a red apple which is being disseminated by Mr. A. D. Barnes, Waupaca, Wis., under the name of *Evelyn*.

"There is a tree of *Evaline* standing in an orchard which was planted on the grounds of the Iowa Agricultural College about 1877. Haas stock was planted and top-worked about 1878 with scions of the *Evaline*. This tree is hardy, healthy, and productive. The fruit is above medium to rather large, greenish or yellowish, often with a faint blush, with a good degree of uniformity in size and appearance; flavor subacid; texture and quality superior to that of

[a] "A Study of Northwestern Apples," Bulletin 76, South Dakota Agricultural Experiment Station, 1902, p. 49.

[b] Iowa Horticultural Society, Report, 1877, pp. 81–83.

**25622 to 25630**—Continued.

*Northwestern Greening.* It bears some resemblance to apples of the *Fall Pippin* type. As grown at Ames it keeps in ordinary storage till midwinter or later.

"Mr. W. T. Macoun, horticulturist of the Central Experimental Farm, Ottawa, Canada, to whom samples of the fruit were submitted, wrote November 13, 1908: 'I have tested and described the *Evaline* apple. I consider it to be better than *Northwestern Greening* in quality. As you say, it approaches very close to the *Fall Pippin.*' Col. G. B. Brackett, United States pomologist, from specimens which were sent him, describes the flesh as yellowish, medium fine, breaking, juicy, subacid, pleasant flavored, good to very good in quality.

"On account of the uniformity of the fruit in size, appearance, and quality, and because of the hardiness of the variety in tree and fruit-bud, it appears worthy of more extended trial in central and northern Iowa as an early winter or midwinter apple for the home orchard. On the college grounds the variety has made a record for hardiness and fruit-bud, having yielded pretty good crops during the seasons of 1907 and 1908 when many other varieties in the station orchards yielded little or no fruit because their blossom-buds or blossoms were killed by the late freezes." (*S. A. Beach in the Report of the Iowa Horticultural Society, 1909.*)

**25630.** Malus diversifolia (Bong.) Roem. **Crab apple.**

"(Iowa Expt. Sta. No. 406, 1909.) Crab apple, native to Alaska. Received from Prof. C. C. Georgeson, of the Alaska Experiment Station, Sitka, Alaska. In his letter of April 13, 1909, Professor Georgeson remarks: 'So far as I know there are no wild crab apples in the interior, the species *Pyrus rivularis* (*Malus diversifolia*) is confined in Alaska entirely to the coast region of southeastern Alaska.'" (*S. A. Beach.*)

**25631.** Semele androgyna (L.) Kunth.

From Funchal, Madeira. Presented by Mr. Alaricus Delmard, Monte Palace Hotel. Received June 12 and 14, 1909.

Franceschi (Santa Barbara) says that it looks like a gigantic smilax and has dark-green tropical foliage which is likely to be mistaken for some of the Indian climbing palms.

*Distribution.*—An evergreen, climbing vine, native of the Canary Islands, and cultivated as a greenhouse ornamental.

**25632 to 25637.**

From Eritrea, Africa. Presented by Prof. T. Batorate, director, Colonial Agricultural Experiment Station, Asmara. Received June 1, 1909.

The following seeds:

**25632.** Barbeya oleoides Schweinf.

*Distribution.*—A small tree, native of the middle and higher mountainous regions of the northern part of Abyssinia, and the province of Yemen, in Arabia.

**25633.** Carissa edulis Vahl.

*Distribution.*—A tall shrub, found throughout tropical Africa, from Guinea and Nubia, south to Damara-land and the valley of the Zambezi; also in tropical Arabia.

**25634.** Diospyros senegalensis Perrott.

**25632 to 25637**—Continued.

*Distribution.*—A shrub or tree, from 6 to 40 feet high, native of Guinea and Abyssinia and south to Mozambique, in Africa, and of Yemen, in Arabia. The wood, which is much used by the natives, is white and compact, or black in the center, like ebony.

**25635.** Millettia ferruginea (Hochst.) Baker.

*Distribution.*—A large tree, found in Abyssinia. The powdered seeds are thrown into the water to stupify fish, and the tree also furnishes a poison for arrowheads.

**25636 and 25637.** Hyphaene thebaica (L.) Mart.

**25636.** From Assab. **25637.** From Argodat.

*Distribution.*—A palm, native of the valley of the Gambia River in upper Guinea, and of Nubia, Abyssinia, Somaliland, and British East Africa in the Nile Valley; also native of extratropical Egypt and Arabia.

**25639 and 25640.**

From Perth, western Australia. Presented by Mr. P. L. Richardson, acting inspector-general of forests, Department of Woods and Forests. Received June 3, 1909.

Seed of the following:

**25639.** Xanthorrhoea preissii Endl.

"This grass-tree, which forms a conspicuous feature of the Australian landscape, is among those strange members of the rush family that have a decided trunk, or caudex. This species often has a trunk attaining a height of 15 feet, surmounted by a dense, symmetrical crown of foliage, composed of a multitude of brittle, linear leaves which spread or curve gracefully in all directions. From the center of this tuft of leaves arises a solitary, scepter-like flower stalk, terminating in a dense cylindrical spike of numerous, closely packed greenish flowers. This picturesque desert plant is well worth trial in the warmer and more arid regions of the United States." (*Extract from Bailey's Cyclopedia of American Horticulture.*)

*Distribution.*—A native of western Australia, found from St. Stirling Range to the Vasse and Swan rivers.

**25640.** Nuytsia floribunda (Labill.) R. Br.

A terrestrial tree belonging to the mistletoe family, often 35 feet in height, with spreading branches. The leaves are linear and thick, about 3 inches long, or reduced to small scales on the new shoots. The flowers are orange-yellow, in showy racemes, crowded at the ends of the branches. The fruit is a nut ½ inch long with 3 broad thick wings.

*Distribution.*—It is a native of western Australia, extending from King George's Sound to the Swan and Murchison rivers.

**25641.** Eleocharis tuberosa (Roxb.) Schultes.

**"Water chestnut."**

From China. Procured by Mr. G. P. Rixford, of this Department, in San Francisco, Cal., from a Chinese importer. Received June 16, 1909.

"The corms or tuberous rhizomes of the above plant are a great favorite with the Chinese. They are mostly eaten raw, but are also sliced and shredded in soups and

**25641**—Continued.

in meat and fish dishes. Foreigners in China grate them and serve them boiled as a winter vegetable, in which state they resemble sweet corn very much in looks and taste.

"The plants need a hot summer to mature and are grown on a muck or clayey soil with several inches of standing water on top, very much in the same manner as wet-land rice." (*Frank N. Meyer.*)

*Distribution.*—A native of China, and extensively cultivated there for its tubers.

**25642 to 25645.** VICIA FABA L. **Horse bean.**

From Malaga, Spain. Presented by Mr. Charles M. Caughy, American consul. Received June 17, 1909.

Seeds of the following:

**25642.** *Morada.*
**25643.** *Cochinera* (pig).
**25644.** *Mazagana.*
**25645.** *Tarragona.*

"These beans are soaked for 12 hours and planted in land which is thoroughly irrigated. No further attention is paid to them until the stalks are about 2 feet high. They all occupy about the same time in ripening and in parts of the district there are 3 plantings a year, viz, September, December, and March.

"It is impossible to say anything as to their ability to resist frost, as that is not experienced here.

"The stalks are fed to stock without any preparation whatsoever except to cut them in short lengths, and have such little value that they are given to those who are willing to take them away." (*Caughy.*)

**25646 to 25648.**

From Yachow, China. Procured by Mr. H. J. Openshaw. Received June 16, 1909.

The following seeds:

**25646 and 25647.** PHASEOLUS VULGARIS L.

**25646.** Mottled red.
**25647.** Black.

**25648.** DOLICHOS LABLAB L. **Bonavist bean.**

*Black.*

**25649 to 25658.** GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

From Newchwang, China. Presented by Mr. Fred. D. Fisher, American consul. Received June 18, 1909.

The following seeds. Quoted notes by Mr. Fisher; descriptions of varieties by Mr. C. V. Piper.

**25649 to 25651.** "*Pai-mei* (white eyebrow), from the white scar on the saddle or point of attachment to the pod." These three numbers consist wholly, or mostly, of *Ito San.*

**25649.** (Locality unknown.)
**25650.** From Mukden.
**25651.** From Kwangning.

**25652.** "*Chin-huang* (golden yellow), from the golden color and more rounded shape of the bean." Subglobose yellow seeds with brown hilum.

**25649 to 25658**—Continued.

**25653.** "*Hei-chi* (black belly), from the dark-brown scar on the saddle." Yellow subglobose seeds with black hilum.

**25654.** "*Ch'ing-tou.* Epidermis green with inside yellow." Yellowish green subglobose seeds. Apparently identical with the *Morse* variety, No. 19186.

**25655.** "*Ch'ing-tou.* Both epidermis and inside green." Subglobose green seeds with black hilum and green embryo. Apparently the *Guelph* variety.

**25656.** "*Wu-tou.*" Small black seeds with yellow embryos. Apparently two varieties mixed.

**25657.** "*Hsiao-wu-tou* (small black bean); the bean is somewhat smaller than the following (S. P. I. No. 25658), with a black epidermis and yellow inside." Small black seeds with yellow embryos.

**25658.** "*Ta-wu-tou* (large black bean), where the epidermis is black and the inside green." Medium-sized, subglobose seeds, black with green embryos. Apparently identical with *Fairchild* variety, No. 19184.

**25659.** MANGIFERA INDICA L. **Mango.**

From province of Baliwag, Philippine Islands. Presented by Mr. Donald MacIntyre, Moanalua Gardens, Honolulu, Hawaii. Received June 19, 1909.

*Caraboa.* "The fruit of this is a little smaller than the one from *Cavite* (S. P. I. No. 24927)." (*MacIntyre.*)

**25660.** ZEA MAYS L. **Corn.**

From Alajuela, Costa Rica. Presented by Mr. Jerome B. Clark, care of Cox & Co., Hacienda "El Brazil." Received May 15, 1909.

White.

**25665.** SECALE CEREALE L. **Rye.**

From the province of Ekaterinoslav, Russia. Presented by Mr. J. A. Rosen, American Agricultural Bureau of the Government Zemstvo of Ekaterinoslav, Russia, 428 Andrus Building, Minneapolis, Minn. Received March 23, 1909.

*Petkoff Winter.* "This rye is frequently sown in the early part of July, is cut for soiling purposes in September (may also be pastured, but this is not advisable), and produces a crop of grain the following season. If raised for the grain only, it is sown late in September; in this case it usually yields heavier." (*Rosen.*)

**25666 to 25683.**

From Abyssinia. Presented by Mr. Hubert S. Smiley, Drumalis, Larne, Antrim County, Ireland. Received June 14, 1909.

The following seeds:

**25666 to 25670.** TRITICUM sp. **Wheat.**

**25668.** "Grown on clay ground in any part of the country."

**25670.** "White, grown in the hot country."

**25671 and 25672.** HORDEUM sp. **Barley.**

**25671.** "Grown on high ground."

**25672.** "Black. Grown on red earth in the cold part of the country."

**25666 to 25683**—Continued.

**25673 and 25674.** HORDEUM VULGARE L. **Barley.**

**25674.** White.

**25675 to 25677.** ANDROPOGON SORGHUM (L.) Brot. **Durra.**

**25675.** "Common red-seeded durra of Abyssinia. Identical with No. 24897." (*Carleton R. Ball.*)

**25676.** "The common flinty-seeded durra of Abyssinia; seed yellowish, often tinged with brown; very similar to No. 24899. Seed poor and mixed." (*Carleton R. Ball.*)

**25677.** "Same as the above but seed of better quality. This variety has proved enormously heavy and late, as grown in the United States." (*Carleton R. Ball.*)

**25678 and 25679.** VICIA FABA L. **Horse bean.**

**25678.** Brown. **25679.** Greenish brown.

**25680.** PISUM ARVENSE L. **Field pea.**

**25681.** SESAMUM ORIENTALE L. **Sesame.**

Brown.

**25682.** BRASSICA sp.

**25683.** PHASEOLUS VULGARIS L. **Bean.**

White.

**25684 to 25686.**

From Lawang, Java. Presented by Mr. M. Buysman. Received June 24, 1909.

The following seeds:

**25684.** CANARIUM COMMUNE L.

See No. 20808 for description.

*Distribution.*—A native of the Malay Archipelago, and cultivated in India.

**25685.** MUCUNA sp. **25686.** MUCUNA sp. (?)

**25688 and 25689.** BELOU MARMELOS (L.) W. F. Wight. **Bael.**

From Saharanpur, India. Presented by Mr. W. R. Mustoe, superintendent, Government Archæological Gardens, Lahore, Punjab, India. Received June 28, 1909.

Seeds of the following:

**25688.** Oblong variety. **25689.** Small variety.

For further description, see No. 24450.

**25690 and 25691.** PITHECOLOBIUM DULCE (Roxb.) Benth.

From Chinapas, Chihuahua, Mexico. Presented by Mr. Elmer Stearns, botanist, School of Agriculture, C. Juarez, Chihuahua, Mexico. Received June 24, 1909.

The following seeds:

**25690.** Fruit white. **25691.** Fruit red or reddish.

See No. 23457 for description.

*Distribution.*—A native of Mexico, Nicaragua, and Colombia; cultivated in India and other tropical countries.

**25692.** CARICA PAPAYA L. **Papaw.**

From Gonda, United Provinces, India. Presented by Rev. N. L. Rocky. Received June 28, 1909.

"Papita or papaya seed grown in latitute 27° 7′ north, longitude 81° 51′ east. Fruit was about 4 pounds each; tree 16 months old. This seed came from fruit grown in Gonda, the seed of which I obtained originally in Bangalore. I have had trees live and bear for 6 years and continue to freely grow. I see no reason why this luscious fruit should not grow and thrive all along the Gulf and in the islands." (*Rocky.*)

**25694.** PITHECOLOBIUM DULCE (Roxb.) Benth. **Guamuchitl.**

From Guadalajara, Jalisco, Mexico. Purchased from Señor Hernandez, Street of the Giant 83½. Received June 28, 1909.

See No. 23457 for description, and Nos. 25690 and 25691 for distribution of this species.

**25699 to 25701.**

The following material received at the Upper Mississippi Valley Plant Introduction Garden, Ames, Iowa. Numbered for convenience in recording distribution, June 30, 1909.

**25699.** CYDONIA sp. **Quince.**

"(Iowa Expt. Sta. No. 518, 1906.) Seed received from Mr. Paul D. Bergen, Shantung, China. In his letter of October 2, 1906, Mr. Bergen says: 'The quince is the regular Shantung species, very good for jelly.'" (*S. A. Beach.*)

**25700.** MALUS sp. **Apple.**

"(Iowa Expt. Sta. No. 519, 1906.) Seed received from Mr. Paul D. Bergen, Shantung, China. In his letter of October 2, 1906, Mr. Bergen says: 'These apples are native to this district, and are a small, dark-red, sourish variety. Our climate here is milder considerably than that of Iowa. The country is here so completely cultivated that there is small place for wild fruits of any kind. The Chinese are considerably skilled also in the art of grafting, so that their fruits are very much modified from the ancestral stock.'" (*S. A. Beach.*)

**25701.** MALUS sp. **Apple.**

"(Iowa Expt. Sta. No. 432, 1906.) Seed received from Mr. H. P. Perkins, Poatingfu, China, October 12, 1906. In his letter of September 5, 1906, Mr. Perkins says: 'These are seeds saved from our breakfast apples, which were of 2 or 3 varieties, none of them equal to our best United States summer apples, and I fear they will not answer your purpose, as the winters here are probably far less cold than are yours. This place is near Shanhaikuan, which is the place where the great wall reaches the sea. The fruit region is some 40 miles north (Changli). There are hills there, but I imagine the fruit is grown not very far up the hillsides. We are on a sea bay which usually does not freeze over in the winter. We call all this part of China North China, but nothing inside the great wall is really very far north.'" (*S. A. Beach.*)

**25702 and 25703.** ORYZA SATIVA L. **Rice.**

From Saigon, Cochin China. Presented by Mr. Jacob E. Conner, American consul, at the request of consul-general Wilder, of Hongkong, China. Received June 28, 1909.

**25702 and 25703**—Continued.

Seed of each of the following:

**25702.** "The nearest we can come to identifying the rice described as *Sunejin* is a rice known to the merchants locally as *Sun tsim*, the translation of which is 'long kernel.' This rice is said to come from Anam." (*Wilder.*)

"The *Baixau*, as it is known here, is sometimes called 'Siamese garden rice,' and it commands the highest price in the market. A Chinese rice specialist here told me that it is known also as *Sun tsim*, which Mr. Wilder says corresponds to the *Sunejin*. At any rate, it is a fine rice to introduce." (*Conner.*)

**25703.** "The nearest we can come to the variety *Patma* is *Pat nor*, the translation of which is 'soft.' This rice is said to come from Tonkin." (*Wilder.*)

"This variety is called locally *Nep*, or 'alcohol rice,' is very dark colored, and is the one I suppose which corresponds to *Patma* and Mr. Wilder called *Pat nor*." (*Conner.*)

**25704 to 25716.**

From Poona, Bombay, India. Presented by Mr. M. A. Peacock, Pennellville, N. Y. Received June 24, 1909.

The following seeds:

**25704.** Dolichos biflorus L.

**25705.** Phaseolus max L.

Black.

**25706.** Phaseolus radiatus L.

Green and brown mixed.

**25707.** Phaseolus aconitifolius Jacq.

Brown.

**25708.** Cyamopsis tetragonoloba (L.) Traub.

**25709.** Cajan indicum Spreng.

Mauve.

**25710.** Lens esculenta Moench. **Lentil.**

**25711.** Pisum arvense L. **Field pea.**

Mottled green.

**25712.** Lathyrus sativus L.

**25713.** Cicer arietinum L. **Chick-pea.**

**25714.** Vigna unguiculata (L.) Walp. **Cowpea.**

Mixed brown and cream colored seed.

**25715.** Stizolobium sp.

Mottled gray and brown.

**25716.** Glycine hispida (Moench) Maxim. **Soy bean.**

Yellow.

**25717.** Schinopsis balansae Engl.

From Chaco, Argentina. Presented by Sr. Ing. D. Carlos D. Cirola, University of Agriculture, Santa Fe, Buenos Aires. Received June 19, 1909.

"A tree belonging to the family Anacardiaceæ. Native in Paraguay, where, according to Engler, it grows on river banks in impervious clay soil. Said to occur also in eastern and southern Argentine. Known locally as *quebracho colorado*, and forms one of the sources of the quebracho extract used in tanning." (*W. W. Stockberger.*)

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